

WHAT is claimed is:

1. An optical disk device, comprising:

a case, having first and second case members fixed
5 with each other;

a driver, rotating a medium;

an optical pickup module, including optical
elements; and

a circuit portion, forming a control portion;
10 wherein:

at least one of the first and second case
members has a main surface and side surfaces provided at
ends of the main surface;

an integral part is provided at a corner where
15 a pair of the side surfaces in at least one of the first
and second case members adjoin such that the integral part
is continuously integrated with the at least one pair of
side surfaces.

20 2. The optical disk device according to claim 1,
wherein the integral part is formed by all parts of the
corner.

3. The optical disk device according to claim 1,
25 wherein the corner includes an unconnected part where a

pair of side surfaces are not connected and an integral part where the pair of side surfaces are integrally connected.

5 4. The optical disk device according to claim 3, wherein the unconnected part and the integral part are provided in this order from the main surface side.

5. The optical disk device according to claim 3,
10 wherein the integral part and the unconnected part are provided in this order from the main surface side.

6. The optical disk device according to claim 3, wherein a first unconnected part, the integral part, and a
15 second unconnected part are provided in this order from the main surface side.

7. The optical disk device according to claim 1, wherein at least one of the first and second case members
20 is formed by drawing.

8. The optical disk device according to claim 1, wherein the outer surface of the integral part has a C-shape or a curved shape.

9. The optical disk device according to claim 1,
wherein:

a tray is movably provided at the first case member,
the first and second case members are each provided with a
5 main surface and side surfaces provided at ends of the
main surfaces, the tray is positioned between the main
surfaces of the first and second case members, the side
surfaces of the first and second case members oppose each
other, and one or more first protrusions are provided at a
10 part of the side surfaces of the second case member
opposing the first case member.

10. The optical disk device according to claim 9,
wherein:

15 the main surfaces of the first and second case
members are rectangular, and a first protrusion is
provided at each of three side surfaces of the first and
second case members.

20 11. The optical disk device according to claim 1,
wherein:

the average thickness of the second case member is
from 0.4 to 0.83 when the average thickness of the first
case member is 1.

12. The optical disk device according to claim 1,
wherein the first and second case members are made of at
least one of iron, an iron alloy, aluminum, an aluminum
alloy, and a magnesium alloy.

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13. The optical disk device according to claim 1,
wherein the average thickness of the first case member is
from 0.4 mm to 0.9 mm and the average thickness of the
second case member is from 0.3 mm to 0.58 mm.

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14. The optical disk device according to claim 9,
wherein one or more second protrusions are provided at a
part of the side surface of the first case member opposing
the second case member.

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15. The optical disk device according to claim 14,
wherein the first and second protrusions are provided
shifted from each other so as not to abut against each
other.

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16. The optical disk device according to claim 1,
further comprising:

a tray at least carrying a driver and an optical
pickup module, the tray being capable of protruding and
25 withdrawing through an opening of the case including at

least the first and second case members; and

a line connector, connected to the tray, wherein

a part of the inner wall of the case opposing at
least one of the driver and the line connection means is
5 provided with a recess.

17. The optical disk device according to claim 16,
wherein

a recess is provided at a part opposing the line
10 connector, and at least a part of the line connector is
stored in the recess.

18. The optical disk device according to claim 17,
wherein

15 the line connector is adhered to the inner wall of
the case by adhesion means, and the adhered area of the
line connector is equal to or larger than the area in
which the recess is formed.

20 19. The optical disk device according to claim 18,
wherein

a flexible printed circuit board is used as the line
connection means, and

a tape like member having an adhesive layer on both
25 faces is used as the adhesion means.

20. The optical disk device according to claim 16,
wherein

a recess is provided in a location where the upper
end of the driver passes when the tray is freely protruded
5 and withdrawn.

21. The optical disk device according to claim 16,
further comprising:

a first board, fixed to the case; and
10 a second board, fixed to the tray, wherein
the first and second boards are electrically
connected by the line connection means.

22. The optical disk device according to claim 16,
15 wherein:

the recess is formed by making the thickness of the
case smaller than the other parts.

23. The optical disk device according to claim 1,
20 wherein

the first case member includes a main bottom surface,
a sub bottom surface substantially parallel to the main
bottom surface and provided with a step near the second
case member, a side surface connecting the main bottom
25 surface and the sub bottom surface, a connection part

connecting the main bottom surface and the second case member provided at an end of the sub bottom surface, and a planer protrusion extended from the vicinity of the intersecting line of the sub bottom surface and the side
5 surface to the main bottom surface,

a reinforcement member is provided opposing the main surface, the side surface, and the protrusion, and

the reinforcement member and the protrusion are at least partly arranged so that the reinforcement member
10 cramps the protrusion..

24. The optical disk device according to claim 23, wherein the reinforcement member also serves as holding means for holding the tray movably at the case.

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25. The optical disk device according to claim 23, wherein the arrangement in which the reinforcement member cramps the protrusion includes an arrangement through engagement between an engagement part provided at the
20 reinforcement member and a through hole provided at the protrusion.

26. The optical disk device according to claim 23, wherein the arrangement in which the reinforcement member
25 cramps the protrusion includes an arrangement produced by

deforming and expanding the tip end of the protrusion provided at the reinforcement member to cramp the protrusion.

- 5 27. The optical disk device according to claim 23, wherein the arrangement in which the reinforcement member cramps the protrusion includes an arrangement in which the reinforcement member has a through hole and the through hole is engaged with the protrusion.

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28. The optical disk device according to claim 23, wherein the reinforcement member and the main bottom surface are engaged by an engagement structure.

- 15 29. The optical disk device according to claim 23, further comprising at least an arrangement in which the reinforcement member cramps the main bottom surface.

30. The optical disk device according to claim 29,

20 wherein

the arrangement in which the reinforcement member cramps the main bottom surface includes an arrangement through engagement between an engagement part provided at the reinforcement member and a through hole provided at
25 the main bottom surface.

31. The optical disk device according to claim 29,
wherein

the arrangement in which the reinforcement member
cramps the main bottom surface includes an arrangement
5 produced by deforming and expanding the tip end of the
protrusion provided at the reinforcement member to cramp
the main bottom surface.

32. The optical disk device according to claim 29,
10 wherein

the arrangement in which the reinforcement member
cramps the main bottom surface includes an arrangement in
which the reinforcement member has a through hole and the
through hole engages with the main bottom surface.

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33. The optical disk device according to claim 1, wherein
the first case member includes a main bottom surface,
a sub bottom surface provided substantially parallel to
the main bottom surface and having a step near the second
20 case member, a side surface connecting the main bottom
surface and the sub bottom surface, and a connection part
connecting the main bottom surface and the second case
member provided at an end of the sub bottom surface,

a reinforcement member is provided opposing the main
25 bottom surface and the side surface, and

the reinforcement member includes a part adhered by an adhesive to at least one of the main bottom surface and the side surface.